

**CIRCUIT AND METHOD FOR CONTROLLING  
A SYNCHRONOUS RECTIFIER IN A POWER CONVERTER**

**ABSTRACT**

**[0076]** A control circuit and corresponding method that provides, particularly for power converters in a system having paralleled power converters, a control circuit and corresponding method that rapidly and efficiently controls the free-wheeling synchronous rectifier, so as to prevent any large negative current flow that might cause damage to components of the converter during a fault condition where the PWM signal turns off or has missing cycles. In a preferred embodiment, the control circuit and corresponding method of the present invention compares a clock signal and the gate drive output of a PWM controller in order to recognize a failure condition and to rapidly provide control of the synchronous rectifier so as to prevent large negative current flow through the synchronous rectifier which may otherwise result in component damage. The present invention have the advantage of providing control of the free-wheeling synchronous rectifier so as to prevent any large negative current flow, and by doing so in a way that is dependent on the gate drive output of the PWM controller and independent of timing, current sense signals, voltage sense signals, the current share system, and the operation of the forward synchronous rectifier of the power converter.